Coming in 2012:

Mira, the next-generation IBM Blue Gene/Q

IBM's next-generation Blue Gene supercomputer, the Blue Gene/Q, will be delivered to the Argonne Leadership Computing Facility in 2012. As one of the world's fastest supercomputers, experts look to the unprecedented power of this leadership-class system to propel national innovation in science and technology.

The 10-petaflops supercomputer (named Mira) will feature 48K 16-way compute nodes (768K processors), and 768 terabytes of memory. Like the ALCF's Intrepid, Mira will be made available to scientists from industry, academia, and government research facilities around the world.

THE GREEN 500

Blue Gene/Q
Prototype 2 ranked #1
June 2011

As one of the world's fastest supercomputers, Mira will run programs at 10 quadrillion calculations a second. If every man, woman, and child in the U.S. performed one calculation each second, it would take them almost a year combined to do as many calculations as Mira will do in one second. The prototype for this system was named the greenest supercomputer on the planet by the Green500.

A Preeminent Global Resource for Science

From Galileo's first telescope to the particle accelerators of today, scientists have relied on instruments of exploration to understand our world. In this tradition, the Argonne Leadership Computing Facility provides world-class supercomputing resources for breakthrough science and engineering research.

CONTACT ▼
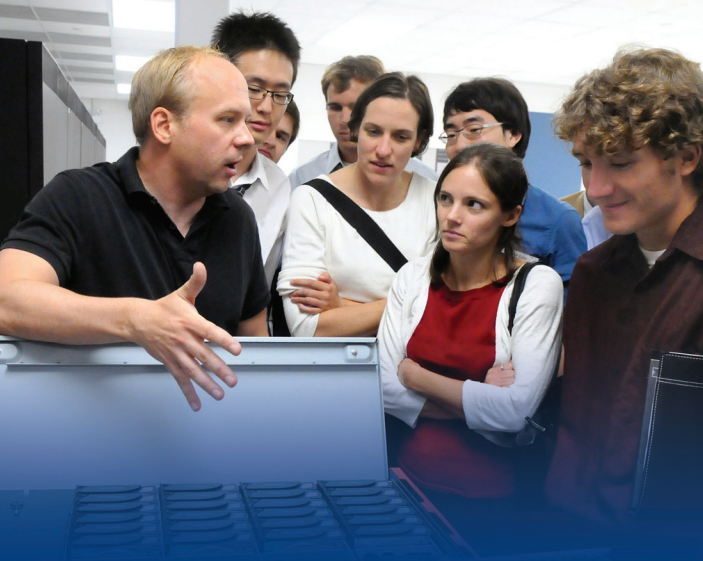Argonne Leadership Computing Facility | www.alcf.anl.gov | info@alcf.anl.gov | (877) 737-8615
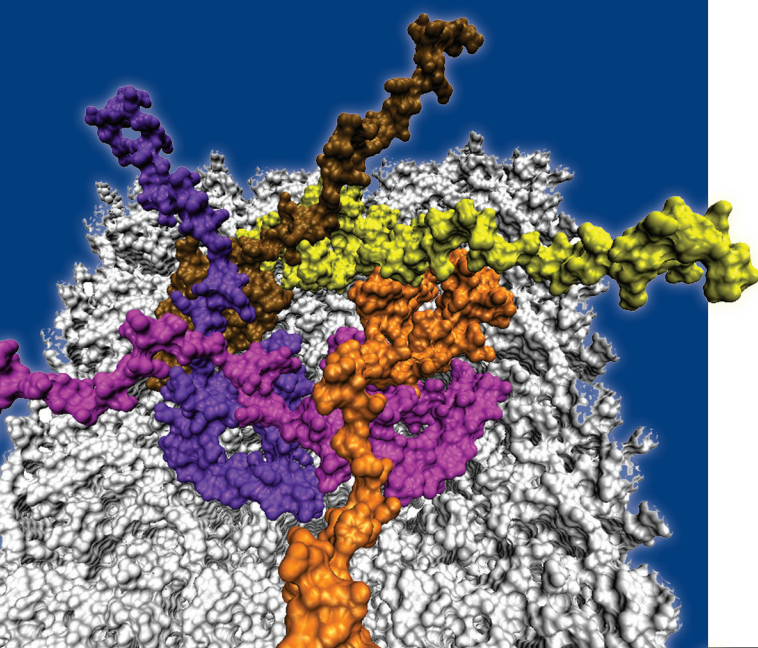
U.S. DEPARTMENT OF ENERGY

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accessing ALCF systems

Argonne Leadership Computing Facility

www.alcf.anl.gov

Argonne
NATIONAL LABORATORY

accessing ALCF systems

The Argonne Leadership Computing Facility (ALCF) provides leading scientists with next-generation HPC resources for computationally intensive breakthrough research to address global challenges. This brochure describes key programs through which ALCF resources are accessed.

The Argonne Leadership Computing Facility

Director's Discretionary Program

Discretionary allocations are "start up" awards made to potential future INCITE projects. Projects must demonstrate a need for leadership-class resources. Awards may be made year round to industry, academia, laboratories and others, and are usually between three and six months in duration. The size of the award varies based on the application; awards are generally from the low tens of thousands to the low millions of hours.

INCITE
U.S. DEPARTMENT OF ENERGY
LEADERSHIP COMPUTING

Innovative and Novel Computational Impact on Theory and Experiment

ALCF resources are available to researchers as part of the U.S. Department of Energy's INCITE program. Established in 2003, the program encompasses high-end computing resources at Argonne and other national laboratories. The INCITE program specifically seeks out computationally intensive, large-scale research projects with the potential to significantly advance key areas in science and engineering. The program encourages proposals from universities, other research institutions, and industry. Current research applications include areas such as chemistry, combustion, astrophysics, genetics, materials science and turbulence.

U.S. DEPARTMENT OF ENERGY | Office of Science

ALCC — ASCR Leadership Computing Challenge

Open to scientists from the research community in academia and industry, the ALCC program allocates resources to projects with an emphasis on areas directly related to the Department of Energy's energy mission, national emergencies, or for broadening the community of researchers capable of using leadership computing resources. Projects are awarded an ALCC allocation based on a peer review for scientific merit and computational readiness.

For access details, go to:

http://www.alcf.anl.gov/getting-started/getting-time

Image: Using resources at the Argonne Leadership Computing Facility, UCSD scientists have shown that certain diseases of the brain may be caused when proteins group together inside brain cells. These important findings may help scientists narrow in on possible new treatments.

Igor Tsigelny – The University of California, San Diego